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# Glen Saint Mary Nurseries Co.

FOUNDED 1882

Winter Haven, Florida

Largest Citrus Nurseries  
in the World





NINETY-ACRE BLOCK OF BUDDING TREES



BLOCK OF BUDS ON SOUR STOCK



ESTABLISHED 1882

# Glen Saint Mary Nurseries Co.

H. HAROLD HUME, President  
C. R. STEPHENS, Secretary



H. E. CORNELL, Vice-President  
A. B. JOHNSON, Treasurer

Citrus Nurseries and Office:

WINTER HAVEN, FLORIDA

Branch Offices: TAMPA, FLORIDA, ORLANDO, FLORIDA, MERCEDES, TEXAS

## Announcement

**I**N 1880 and 1882, the two greatest nurseries in Florida were founded, the Buckeye Nurseries by the late Myron E. Gillett, of Tampa, Fla., and the Glen Saint Mary Nurseries Company by G. L. Taber, now living in Jacksonville, Fla. The Buckeye Nurseries were for many years operated under the firm name of M. E. Gillett & Son and were incorporated in 1922. After the death of Myron E. Gillett in 1922, D. C. Gillett became president of the company.

The Buckeye Nurseries, headed by the two Gilletts, became a tremendous factor in the citrus business of Florida. They not only grew to be the largest exclusively citrus nursery in the business, but were active and prominent in many other lines.

The Glen Saint Mary Nurseries Company was, during the same period, growing an enormous output of citrus trees and of other lines of nursery stock as well. Over a long period of years these two nurseries competed in friendly rivalry, both operating on the principles of the founders—absolute honesty and integrity, the best trees for planters that could be grown at a fair price. When, in 1924, the Buckeye Nurseries, owing to pressure of other enterprises, decided to discontinue the nursery business, it was only natural for them to look to this company to consolidate both interests.

This, then, is to announce that the Glen Saint Mary Nurseries Company has acquired the entire nursery stock holdings of the Buckeye Nurseries. Their output, together with our own, places us in an unequalled position to take care of the tree needs of the planters in citrus areas. We shall continue to supply the friends and customers of both companies with the highest quality trees that can be produced.

GLEN SAINT MARY NURSERIES CO.

H. HAROLD HUME, President





THE START. SEEDLINGS IN SEED-BED, ONE YEAR OLD

## How Glen Saint Mary Trees are Grown

**F**ROM the very beginning the dominant principle in the production of our trees is to finally deliver to the customer the very best that can be grown. All of our experience and knowledge, both practical and scientific, accumulated over a long period of years, is applied toward that end. While we have grown to be the largest citrus nursery in the world, this does not necessarily mean much to a prospective buyer until he stops to consider that the reason for such greatness is nothing more or less than the result of a continued and ever-increasing demand for stock that has absolutely made good with our customers in every respect.

### Producing Quality Trees

The production of highest quality trees cannot be attained by half-way measures anywhere from the beginning to the end. It starts with the seed which is ultimately going to be the root system upon which the grove rests. Fine, vigorous seedlings can be grown only from plump, well-filled seeds. The seed sown in our seed-beds is taken from fully matured fruit of vigorous trees of sour orange and rough

lemon. It is then carefully selected and only good seed planted. The seedlings are grown in our own seed-beds, cultivated and fertilized, but never forced beyond their normal growth. After being grown a year in the seed-bed, the seedling stocks are lined out in nursery form, rows 4 feet apart and a liberal distance apart in the row. Before lining out, all seedlings that are weak and not vigorous are culled out, thus insuring the planting of only thrifty stock. The land used is generally newly cleared and





SEEDLINGS LINED OUT ONE YEAR

free from noxious weeds and grasses. It is plowed, disced, harrowed, and rolled many times and put in perfect condition for the seedlings. The seedlings lined out in nursery form are grown for two years. They are cultivated and fertilized enough to make a normal healthy growth. At the end of the second growing season they are ready to be budded to the various varieties. They are then about three quarters to one inch in diameter. Again our process of selection and elimination is used. Before the stocks are budded, an experienced man inspects every row, and seedlings which are not up to standard—that have not made a satisfactory growth—are pulled up and thrown away. The percentage is small, but in this way only fine, vigorous seedlings are budded.

## Propagation

All of our propagation is done in the fall. It is what is known as dormant budding. This work is in charge of an expert who does nothing else and has been with the Company over twenty-five years. The varieties we propagate are selected strains with a straight-line history going back to an individual

tree of known merit. We know the comparative value of different sorts because we are growing them in our test-orchards. In these orchards the largest known collections of citrus fruits are to be found. At one meeting of the American Pomological Society, in Washington, we exhibited eighty-three varieties of citrus fruits of our own growing. No such collection of citrus fruits grown by one firm was ever before brought together. Not all of these varieties are, of course, offered in our lists, but the best as determined by actual test in the citrus districts and markets are propagated. We also have over two hundred acres of commercial grove, containing all of the best market varieties.

## Bud Selection

From these groves, with trees of absolutely authentic parentage, we select well-developed buds for our propagation work, thus making sure that the young trees are positively true to name. By taking bud-



SEEDLINGS IN NURSERY





ONE-YEAR BUDS ON FOUR-YEAR ROOTS

wood from trees that have a record of bearing heavy crops, not only do we insure the variety being true, but a point to be well considered by the planter is that the heavy-bearing proclivity is also transferred.

## Growing the Young Trees

In the spring, following the dormant budding in the fall, the stock above the bud is cut off, thus forcing out and into growth the variety budded to the stock. These buds are generally from 4 to 6 inches above the ground. The stocks in which the buds did not live (usually a very small percentage) are dug out. The entire growth produced by the root system is now going into the bud or variety only and it grows very rapidly. All of the buds are staked and tied from time to time, in order to train a perfectly straight tree. After they have attained the requisite height, they are topped to a uniform height of from 24 to 26 inches. This causes them to branch, and from three to four branches are allowed to grow. All sprouts are kept removed from below the branches. The budded trees are cultivated, fertilized, and carefully grown for the entire year. They

are never forced unduly but allowed to grow normally. By not over-fertilizing, the tree works harder and develops a larger and stronger root system.

## Importance of Adequate Root System

At the end of the year the finished product is a fine, vigorous, thrifty, well-branched, one-year-old bud on a four-year-old root system. This matter of the age and vigor of the root system is a most important one. A vigorous, healthy tree cannot be produced on a weak or too-small root system. It has been scientifically investigated and proven by a U. S. Government Citrus Experiment Station that a tree lacking in vigor, after transplanting to grove form, always shows that lack of vigor and lags behind throughout its existence, even with the best of care and attention. On the other hand, it was equally proven that a fine, vigorous, thrifty tree, on a large adequate root system, when transplanted grows lustily, becomes a successful tree, and retains that vigor and advantage all through life. Our own experience and observation of thousands of acres of





READY TO DIG FOR THE CUSTOMER

groves has borne this out. Grown under our conditions, we do not believe that it is possible to produce the finest trees for transplanting on root systems younger than four years. It takes a year longer to grow it, but the result is a really fine, thrifty tree. When a customer plants one of our trees with its large four-year-old root, he gets a tree with a punch in it, one that will live, develop rapidly, and be successful.

## Preparation for Delivery

At the finish of the growing season in the fall, the strings are cut and stakes removed. The trees are now ready for digging and delivery. Before the shipping season opens, our inspectors look over every tree, and where one has not made uniform growth with the others, if it is not thrifty, or is in any way stunted, it is dug out and thrown away. In this way it is not possible for the digging foreman, marking trees for a customer, to mark, by mistake,

any but perfect trees. We sell no culls. In digging and packing the same painstaking careful attention to all details is continued. All trees are dug with long, sharp nursery spades. Each tree is dug with an extra-long tap-root and wide side roots. We wish the tree to carry as much root system as possible, to aid it in getting started and to grow well and thus



CITRUS TREE GRADES

The lines show where they are pruned to 16-inch stubs





ONE-YEAR-OLD GROVE OF GLEN TREES

give best results to the customer. After digging, the trees are immediately sprinkled and covered with heavy tarpaulins. They are then transferred to the packing-house in a large truck, completely covered. The roots are never exposed to the drying influence of the sun and wind. A fine-appearing tree unpacked by a customer could be ruined by drying out to a point where it will not start and live, caused by undue exposure when dug. We guard carefully against this with thoroughly adequate equipment and deliver the trees to the packing-house in perfect condition. They are then wet down again. From time to time inspectors of the State Plant Board inspect our entire nurseries. Every shipment that goes out bears a certificate stating that the nurseries are free from injurious insects or diseases. As an additional precaution, we are legally required

to wash all stock in an insecticide solution. After the trees are washed they are carefully packed in either bales or boxes, depending upon the size of the order. The roots are completely covered with moist shingle-tow or sphagnum moss, and all packages double-lined inside with heavy wrapping paper, making them practically air-tight. Every order is packed so as to arrive in perfect condition. The care we take in packing is evidenced by the fact that we have made successful shipments to British East Africa, the stock being three months en route. Practically all orders are shipped by express to expedite delivery, as freight is very slow and uncertain. On large orders for planting within a reasonable radius of the nurseries, we have a fleet of four two-ton trucks with which to make deliveries and trees can be delivered as required.



TWO-YEAR-OLD GROVE OF GLEN TREES





THREE-YEAR-OLD GROVE OF GLEN TREES

## Glen Trees Grow

"Penny wise and pound foolish," indeed, is he who seeks to save a few cents per tree in the purchase of nursery stock. Considering the cost of the land, its preparation for the tree, the subsequent expense of care and attention, the original cost of trees is a small matter. But the tree is the most important factor of all. With everything else favorable, if the trees are not right, failure, or at best, mediocre success is inevitable. We know of no other product in which it is so absolutely essential and vitally important that the company selling it be one of substantial character and enduring existence; one that guarantees its product and stands back of it. In the purchase of practically anything else a buyer knows at once or within a short period of time

whether or not he has made a good purchase, received his money's worth, or got what he expected. This is not true with nursery stock. A tree must be cared for, more money spent on it, and be brought into bearing. If it grows vigorously, comes into fruiting early, bears heavy crops, and is exactly the variety purchased, the planter knows then he has purchased wisely and well. If the reverse is shown, no amount of money can adequately compensate for the time lost, the expense and effort put forth, and the hopes and expectations shattered. The purchaser of Glen trees can be certain that he has bought the best that money can buy, and further, can have the satisfied feeling of confidence and assurance that he received exactly what he ordered; that his trees are right in every way.



FOUR-YEAR-OLD GROVE OF GLEN TREES





IN FULL BEARING

From this commercial grove of over 200 acres we cut our budwood

## Your Protection

It is only by reason of our large volume that we are able to sell trees, such as we grow, at the price we do. This Company has no side lines, no interests whatever other than the production of the best trees that can be grown and delivered to the customer at a fair margin of profit. Methods now used in growing our nursery trees have been perfected through years of most careful research work. Each factor, contributing to the production of high-quality stock, has been the object of most careful

investigation. Every effort and legitimate expense in ample equipment, land, labor, and materials, backed by adequate experience, is directed to that end. Your protection and your certain assurance that you are buying from us the finest trees that money can buy, lies in this fact and in the fact that for forty-five years we have been supplying tree planters all over the world with our stock, with a uniform reputation for honesty, integrity, and successful results. Wherever citrus trees are planted, there will be found planters of Glen Saint Mary trees—Our Friends—Satisfied Customers.



## Hamlin Orange

THROUGHOUT the history of commercial citrus culture in Florida, there has been a constant effort to find a high quality, early, round Orange—one having early maturity combined with good flavor and attractive appearance, without the shortcomings of so many early Oranges. An Orange combining all of these good qualities has been in existence for more than forty years, and we are very glad now to be able to bring it to the attention of a large number of tree-planters.

In 1879, an 8-acre Orange grove was planted by Isaac Stone, near Glenwood, Volusia County, Florida, for Mrs. Mary H. Payne, the mother of Mrs. A. G. Hamlin. Later, this grove came into the possession of Mr. A. G. Hamlin, formerly of DeLand, now of Tavares, Florida. A mixed lot of trees for this planting was procured from three small nurseries belonging respectively to Isaac Stone, Benjamin Cook, and Fred E. Norris.

In 1883, when Mr. Hamlin took up his residence in Florida, this grove was just beginning to bear. In the winter of 1884 his attention was attracted to the fruit on a tree in the grove which was entirely different from that borne by others in thinness of skin and height of color. It was very early in maturing and very superior in texture and flavor. Upon careful examination he found five trees of the same type in the entire 8-acre grove. Mr. Hamlin top-worked other trees in the grove to this variety. By 1895 he was selling from 300 to 500 boxes yearly, mostly in the DeLand market. It was given preference over all other varieties of its season. Because it was such a favorite with Mr. Hamlin, it was commonly referred to as Hamlin's Favorite.



Prior to the freeze of 1894-95, Mr. Hamlin seriously considered forming a large nursery company to extensively propagate and distribute this fine Orange. The freeze destroyed all of his trees, with the exception of three which happened to be partially banked with hay and trash piled up around them. From these trees so saved, Mr. Hamlin again started to propagate the variety. Eventually he budded about 15,000 trees and sold them under the name of Hamlin's Improved Pineapple. Circulars were distributed and it was written up and described in the state press.

Mr. H. A. Wright, who was to have had charge of the proposed large nursery, budded two trees in his grove at Glenwood. One of these was killed in a





HAMLIN ORANGE TREE IN FRUIT

later cold, but the other tree survived and still stands near a barn on the old Wright place. It was from this tree that we secured budwood for our first propagation of this variety.

Before the incorporation of the Glen Saint Mary Nurseries Company, and before the present officers were in charge, Mr. Hamlin brought this Orange to the attention of Mr. G. L. Taber, the proprietor of the nurseries prior to incorporation. However, it was not until December, 1913, that it was brought to our attention by Mr. F. W. Bredow of Glenwood, Fla., a resident there for over forty years. After the freeze of 1895, Mr. Bredow secured budwood of the variety and was propagating and selling it under the name of Norris Early Seedless. There is, how-

ever, no proof that this Orange originated with Mr. Norris. It could have come from any one of the three nurseries from which the trees were secured for the Payne grove planting in 1879. It appears that it was first recognized as a distinct variety in this grove.

We visited the old tree on the Wright place and secured a small quantity of budwood from it. With this we top-worked several old trees and a number of years ago planted a 10-acre grove of this variety on Sour Orange stock.

Inasmuch as Mr. Hamlin appears to be the original discoverer of this variety, perpetuated it, and his name was attached to it first as Hamlin's Favorite, and later as Hamlin's Improved Pineapple, and inasmuch as it is the variety of which we secured budwood from the tree on the old Wright place

which has a straight-line history back to the original tree in the Payne grove, we believe that the name should be Hamlin instead of Norris.

For a number of years, while our trees were growing and while we were observing and testing this variety, we grew only a few trees. Each year, however, owing to our increased supply of budwood, we grew more. These few thousands of trees were always eagerly taken up by people who knew the Orange. Now, our grove, being older and larger and allowing us an adequate supply of budwood, we are in position to furnish our customers trees in larger quantities. Our experience showed us from the very beginning that this variety is an extremely vigorous grower, in fact, the most vigorous of all Orange varieties. It is a heavy, regular bearer and because of its early and fine appearance has always brought splendid prices. The old tree on the Wright place produced fourteen boxes the season of 1923-24.

We have fruited and tested in our own test-grove of over eighty varieties, most of the round Oranges which have been offered the planting public. We



have had other varieties under observation for many years, but until this Orange was brought to our attention we never knew a very early round Orange that did not have some serious drawback. Some are too large, others too small, still others misshapen. Several early sorts have thick, coarse, pebbly rind; others do not color well; and some are almost tasteless under most cultural conditions.

Hamlin is an ideal early Orange. It matures the latter part of September and early October, somewhat earlier in the northern citrus belt than in the southern. In Polk County it will pass the legal acid test of eight to one the first week in October, and it can be shipped at that time. It shows very good color as soon as it is mature enough to ship.

In color it is a clear golden yellow, tinged with deep orange-red, which becomes more pronounced if the fruit is allowed to hang on the trees until full maturity. The texture of the skin is wonderful. It has the smoothest rind of any round Orange known to us, and it is a distinctly fancy fruit.

Its flesh is melting, very juicy, with real delicious Orange flavor at its earliest maturity. It is practically seedless—most fruits have no seeds at all but some contain from one to three seeds. The sizes are those for which the market pays the highest prices. Several hundred boxes from our own trees,

and shipments made by others which have come under our observation, have practically all run 176's and 216's, with, of course, a very few 150's and 250's. It is a medium-sized Orange, and over a period of years it has proved to be an excellent shipper. Its normal season is October 1 to 10, but it can be held sixty days later without deterioration. It should not be carried on the trees later than January 1 in most seasons.

In the Hamlin Orange we are not offering our customers a variety with which to experiment. It has been favorably known for many years in the vicinity of DeLand. We have demonstrated by actual test that it is a high-quality variety, both in fruit and growth, on the two standard stocks, Rough Lemon and Sour Orange. Over a period of eleven years we have tested it thoroughly and we know positively that it has no superior as a high-class early Orange. We are firmly convinced that it will displace all other early round Oranges known today and become the standard early round Orange of Florida and the Gulf Coast.

Hamlin will be sold at the same regular catalogue prices charged for other varieties. Our trees are grown from buds taken from our own bearing, tested-out, commercial groves, and customers are assured that from us they will get trees true to name and as fine as can be grown.



A CUSTOMER'S GROVE OF GLEN-GROWN TREES





## Parson Brown

FOR many years this has been the most popular early round Orange for commercial planting in Florida. It is one of the earliest Oranges that will pass the legal requirements of maturity, as it is generally ready to market the latter half of October or early in November. The planting of Parson Brown for an early commercial Orange has been widespread, so that it has become a standard variety. The fruit is shipped in such volume that it marketed under its own name. It is of good quality and medium to large in size. The early market generally desires these sizes and this variety always brings good returns to the growers.

It originated at Webster, Fla., in the seedling grove of Parson Brown, and was introduced about 1878 by Capt. J. L. Carney, of Lake Weir, Fla.

Our strain of Parson Brown goes straight back to the original source, and we have been growing it in grove and nursery for more than thirty years. We have selected and re-selected it from bearing trees until we know there is no better Parson Brown than the old Carney Parson Brown, Glen Saint Mary selected and grown. Growers who wish to add to their plantings of Parson Brown or who wish to plant the present standard early Orange can make no mistake in planting our trees of this variety.



## Pineapple Orange

THE history of many industries and commercial enterprises shows a working from the complex to the simple, and, with simplification, greater perfection and efficiency.

In the early days of budded citrus trees, from 1886 on, when many varieties were being brought out, we at one time carried in our catalogue fifty-two varieties of citrus fruit trees. Of these, in Oranges alone, eighteen were midseason varieties. What confusion must have existed in the mind of the planter who wished to plant a midseason variety! Oftentimes he evidently solved the question by planting several, or all. Each of them had a certain degree of merit and some had serious faults. The results have been that there is in production, in old groves largely, a considerable quantity of fruit of many varieties which is shipped and marketed simply, "Round Oranges." Even when the quality of this fruit is as good as possible, it does not bring so satisfactory returns as the better standard varieties which are marketed in their season under their own names.

It has been our constant aim, over a long period of time, to select the best variety in each group for its season, or, at the most, the best two varieties. Years of experience in growing these varieties, fruiting them, watching results in shipping and reception in the markets, have proven that of them all, the one best outstanding midseason variety is Pineapple.

Pineapple has all the good qualities that any other variety has, and more, and has none of the drawbacks of others. The fame of this variety was established many years ago, and of all the Oranges which have originated in Florida it has been most largely planted. It often happened that varieties in favor at one time were later supplanted by others, but this has not been the case with Pineapple. So long as Oranges are grown in Florida, the Pineapple Orange will make up a generous part of the output. It is the standard midseason variety, so recognized by the State Experiment Station, State Horticultural Society, by growers and commercial fruit men.

Pineapple originated in the heart of the old citrus belt of Florida, near Citra, in the grove of Dr. James B. Owens. Because of its peculiarly fine flavor and

its slight resemblance to a pineapple in taste and odor, it was so named.

The true red-skinned Pineapple is distinctively handsome and attractive in appearance. It is of good size, has very smooth skin, and is a deeper richer red than any other round Orange. The flesh is firm, of fine grain, and the juice is abundant. The quality is unsurpassed, the flavor being rather spicy, a rich blending of sweet and subacid, peculiar to the variety.

The fruit was first marketed in quantity by Bishop, Hoyt & Co. It quickly established a great reputation, which it has maintained and increased from



PINEAPPLE ORANGES





PINEAPPLE ORANGES

year to year. It is a fine shipper and is shipped and marketed under its own name. On account of its distinctive merit and its many excellent qualities, it generally commands top prices in the markets. It always brings a premium over all other round Oranges in the midseason period. Pineapple has a liberal shipping season. It matures the latter part of December and can be held until the first of March.

More and more as the older plantings of many mixed varieties and of seedling groves go out of production, Pineapple takes their places. No orchard planting today is contemplated without considering it. The grower who wishes to have a crop of Oranges to market between the early and the late varieties, should plant Pineapple.

For many years past we have been reducing the number of varieties in our list, because we realized that if citrus fruit was to gain the place in the markets that it deserved it was necessary to have greater uniformity in the product. It has been our aim over a long period to reduce the number in each seasonal group to one or two varieties. To cover the entire fruiting season in Florida, from October or November to July, it is necessary to have a larger number of varieties than are required for the southwestern citrus districts. Years of experience in growing many varieties, fruiting them, watching results in shipping and their reception in the markets have proved that of them all, the one best outstanding midseason variety is Pineapple.



## Varieties to Plant

THERE is complete agreement among citrus authorities to the effect that the fewer varieties grown for commercial consumption the better it is for any Orange or Grapefruit-producing section. This Company has long advocated and consistently worked toward the end of confining the varieties to the one best variety for its season in the Sweet Orange, Mandarin Orange, and Grapefruit Groups. We offer in this catalogue thirteen standard varieties which have been thoroughly tested for many years for production, appearance, quality, flavor, texture, shipping qualities, and market value. The question in the mind of the planter today as to what varieties to plant has been greatly simplified.

In the Sweet Orange Group the varieties are Hamlin (very early), Parson Brown (early), Pineapple (midseason), Valencia Late (late), Lue Gim Gong (very late). In the Mandarin or Kid Glove Group the standards are Tangerine (early), Temple (midseason), and King (late). Satsuma, the earliest of this group, is largely confined to planting in northern Florida, southern part of Gulf States, and northeastern Texas. For Grapefruit, Triumph (very early), Duncan (midseason), Marsh Seedless (late), and McCarty (very late), cover the field thoroughly. These varieties provide for a constant supply of fruit over the entire period of about nine months of commercial shipping. Each is the very finest in its class and season, and the question of what to plant is largely a question of what class of citrus fruits it is desired to grow and in which period the grower wishes to sell his fruit. Whatever combination may be selected from these standard varieties, the planter can be certain he is growing the kinds for which the market is calling. In areas where there is a slight danger from cold, preference should be given to the early and midseason varieties. Where the acreage is large enough to

warrant it, such a selection as will give fruit to market from early fall until late spring is desirable, and will be made by thoughtful growers whose location and lands are such as to offer no special advantage in the production of fruits maturing at certain seasons. If there are conditions which make it especially profitable to grow either early or late fruit, it is well to keep these in mind. For smaller plantings it is best to limit the varieties to as few as possible, or even to one variety, in order to produce a fair-sized crop of any one sort. **No mistake can be made in planting any one of these varieties in any quantity.**

Grapefruit is a more recent introduction, and up to within the past few years was not planted very extensively. The present production is equal to the demand. However, the market for Grapefruit is being greatly widened in this country, Canada, and Europe. To guard against future over-supply, a proportion of one-quarter Grapefruit to three-quarters of other varieties is advisable.

Oranges have been eaten by many nations for hundreds of years. The demand for them in this country is constantly increasing. Based upon a survey of plantings in Florida, California, and Texas, their potential production, and a detailed knowledge of consumption in the markets, we recommend a proportion of three-quarters of Oranges.

Oranges of the Mandarin or Fancy Kid Glove Group have never been extensively planted. The production of this type of Oranges is at the present time very limited, less than 500,000 boxes being produced annually. Up to a few years ago they were not well known in the markets. Now, however, the demand for them is keen and they bring very fancy prices. Inasmuch as they always bring splendid returns and the supply is far short of the demand, we believe it advisable for the planter to include a liberal proportion of Oranges of this type in his planting.



VALENCIA LATE ORANGE GROVE





## Valencia Orange

THIS is, perhaps, the most famous variety of citrus fruit in the citrus industry. It is one of the two leading varieties of California, the most prominent in Spain, and the standard late sort of Florida. It has been known by many names—Hart's Late, Tardiff, Valencia Late, etc. It came to America from Spain in different ways, but it is all one Orange. Today it is the most widely known late Orange and the only one to be considered for its season, March to June. Owing to the fact that it is practically the only Orange on the market at this time, Valencias command a fine price, and, consequently, plantings of this variety are very profitable. A survey of prices received for Valencias over a long period of

years shows that the returns have been most uniformly good. In years of short crops, or held very late, instances of growers receiving as high as from \$7 to \$9 per box net on the trees are not uncommon. The general average would be in the neighborhood of \$4. In planting Valencia, a locality should be selected that is reasonably free from frost or damaging cold, as the fruit remains on the trees throughout the winter months.

The tree is a strong grower and comes into bearing early. It blooms at the same period as other varieties, usually in February, but matures its fruit slowly. It is not until over a year later—the following March—that it is ripe enough to ship. However, the trees





VALENCIA ORANGES

put out bloom and set a normal crop while carrying the current or old one. It can be held on the trees until late May or early June, thus allowing for a wide marketing period. During the spring months, while they are carrying a mature crop, bearing Valencia trees should not be forced into too active or lush growth or there will be a tendency for the fruit to turn green and dry out at the stem end. The heaviest application of fertilizer should be put on in June, after the old crop is removed, and then again in the fall

Valencia fruit is of medium size, of good color, with thin skin and firm, deep orange flesh. It is practically seedless, containing only a very few seeds, and is very juicy and delicious in quality. In

this respect it leaves nothing to be desired. It is also a splendid shipper, is marketed under the name Valencia, and is most favorably known and received in all citrus markets.

Many years ago we tested out a number of strains of Valencia from both California and Florida. Most of them showed only slight variations in fruit or tree characteristics. However, we selected the one which showed the best tree growth, bore the most desirable market sizes uniformly, produced the finest fruit, and proved to be the most prolific and regular bearer. This strain was from one of the greatest Valencia orchards in California. There are many strains of Valencia trees on the market but we firmly believe that we offer our customers the best Valencia in existence.





## Lue Gim Gong Orange

THE Lue Gim Gong Orange is an established commercial success. Based on reports from our customers, and upon the behavior of bearing trees in our own groves, we give the following information: In size, the fruit is large, packing 126 to 176 per box; in form oblong, carrying its full diameter well down to the rounded base. The color is a deep orange-red; skin smooth; flesh deep orange, very juicy, and free from rag. The flavor is a rich blending of sweet and subacid and, when fully ripe, of delicious, unsurpassed quality. It is nearly or quite seedless. The fruit is a good keeper and fine shipper.

Lue Gim Gong trees are hardy, thrifty growers.

In our groves and nurseries we have observed during several cold snaps that it invariably suffers less injury than any other variety of sweet Orange. This statement is amply borne out by the observations of many growers under widely different conditions.

The fruit is edible in March and April, but is then too acid for most tastes. It is fully ripe in May, and from then on is delicious. It will hang on the tree for months, but for all practical purposes would be marketed as a remarkably late Orange for the year, say in June or July. Lue Gim Gong has brought us splendid prices, and, with our knowledge of the variety, we recommend it for commercial planting.





## Dancy Tangerine Orange

ORANGES of the Mandarin Group are often referred to as Kid Glove Oranges for the reason that they can be peeled and eaten out of hand without soiling the fingers, whereas Oranges of the Sweet or Round Group cannot be handled and eaten with the same ease. There are many varieties and strains of Tangerine, and while they are difficult to tell apart, some of them are of very inferior merit. The true Dancy Tangerine originated at Buena Vista, Fla., in St. Johns County, the original tree being raised by the late Colonel Francis L. Dancy, and it was brought into cultivation about 1871. Since that time it has consistently proven itself to be the best

of the Tangerines and has been more generally planted than any other. The tree is compactly headed, dense, and rather upright, but tending to spread as it grows older, the head being opened by the weight of heavy crops of fruit. It is a very ornamental as well as a wonderfully prolific variety. This feature has been further increased in Glen Saint Mary trees by the careful attention given to its propagation for many years. The fruit is flat, of medium size, with very smooth rind and very high color; a brilliant deep orange-red, almost tomato-red, sets it in a class distinct from all other citrus fruits. The flesh is dark orange in color, with melting pulp,





TANGERINE ORANGE TREE

very free from fiber, and filled with delicious juice. The skin is very easily removed and the sections readily separated without breaking the juice-sacs or soiling the fingers.

The marketing period of Dancy Tangerine is

quite extended. At its earliest it can be shipped about the middle of November, closely following the Satsuma grown in the colder citrus areas. Fruit can be held as late as March. Much of it is shipped during the holidays when its extremely high color and attractive appearance lend much value to its sale. Up to a very few years ago Tangerines were not planted on a commercial scale, only a few trees being planted for home use. Gradually as this fruit became known in the big markets, the demand for it increased far beyond the supply. Without any advertising or effort the fruit sells at very fine prices, usually netting the grower from \$3 to \$5 per strap, or two half-boxes. Less than half a million boxes are produced annually, and there does not seem to be any likelihood of the demand for this Orange ever being over-supplied. The shrewdest grove men in Florida are extending their acreage of Tangerine, and we recommend a fair percentage of Dancy Tangerine to the grower who desires to produce a fancy high-grade fruit that is very profitable and just a little out of the ordinary.

In some of the world's citrus districts, Kid Glove Oranges are more largely grown than any other kinds. They are the favored sorts in the markets. It would not be surprising, if in the years to come there would be a shift in the same direction in American citrus markets.



DUSTING GROVE WITH SULPHUR





## Temple Orange

IN 1919, the Buckeye Nurseries introduced the Temple Orange. The original and parent tree of this variety was discovered in the grove of L. A. Hakes, near Winter Park, Fla. This tree was planted at the same time as the remainder of the grove in which it stands, but the fruit is entirely different from that of any of the other trees or of any other variety of Orange. The Orange was named in honor of the late William Chase Temple. Since its introduction this remarkable new variety has been so extensively advertised as to become one of the best known in Florida. From the very beginning we have had it under close observation and

have investigated its behavior and characteristics from every angle. We have propagated it in nursery, have planted it in our own groves, brought it into bearing, and have watched with keen interest its performance in the plantings of many others.

We believe that, propagated on the right stock and the trees properly handled on any good citrus soil, Temple is one of the finest Oranges that has ever been brought into cultivation. We have very complete knowledge of the behavior of Temple on three stocks—Sour Orange, Rough Lemon, and *Citrus trifoliata*. It can be planted on lands to





TEMPLE TREE (close-up)

which these stocks are adapted with every assurance of success, if properly grown.

To produce high quality fruit of this variety, the top or wood-growth of the tree must not be too rapid. Rather must it be somewhat slower than that of other varieties, and in no case should it be unduly forced in growth.

This can, of course, be controlled by properly selected root-stocks and by reducing the amount of cultivation given and fertilizer applied. It is an extremely precocious variety. We have seen Temple trees two years old, not more than 30 inches high, planted and cared for in the usual grove manner, bearing a crop of two dozen fruits. It could not be expected that this fruit, whether Temple or any other variety, would be of good quality. Not until a lapse of time has checked the vigorous growth of early years can quality fruit be expected. This applies with greater force to Temple than to any other variety with

which we are acquainted. Either the grower must fertilize and cultivate so as to produce slow tree-growth and development, and thus improve the quality of fruit borne by young trees, or grow his trees vigorously to large size, knowing that he will have no high-grade fruit from them until the trees have passed through their younger years of rapid growth and reached that period of maturity, say six to eight years, when their growth naturally slows down. Rapid tree-growth and high-quality fruit do not go together in any citrus fruits, and they are even less associated in Temple than in other varieties.

Practically all of the Temple fruit produced so far has come from very young trees. The very small amount grown on older top-worked trees has been perfect in quality. With a view of obtaining complete information upon the behavior and results obtained, Mr. D. C. Gillett sent to every planter of Temple trees a letter asking for a report of their performance. We have the replies in our files and they are wonderful testimonials to the merit of Temple after it has been given a fair, adequate period in which to develop. Without exception, they indicate and prove what we state in the preceding paragraph, namely, that after the earliest crops, each succeeding crop of fruit becomes better in quality, does not dry out, and when the tree has



YOUNG TEMPLE GROVE





TEMPLE ORANGE

reached a reasonable number of years of maturity, Temple produces fine, heavy, high-quality fruit, satisfactory in every respect.

In growth-habit, the Temple is willowy and spreading; oftentimes the trees will measure a greater distance across the top than they are tall. It resembles the Tangerine somewhat in growth, but can be readily distinguished from that or any other variety. In outer appearance the fruit is very distinctive and beautiful. The color is a deep orange-red with a smooth, firm skin. It is easily peeled without soiling the hands. The flavor is delicious and quite different from that of any other Orange.

The horticultural description of the variety follows: Form oblate, tapering slightly to the stem;

size medium to large, about  $2\frac{1}{2}$  x  $3\frac{1}{2}$  inches; color deep orange-red; apex broad, shallow depression sometimes navel marked, stem end of fruit tapering and usually creased; calyx small; stem slender; skin smooth or pebbled, leathery, thin, separating easily from the pulp; in this particular, intermediate between Tangerine and round Oranges; oil-cells spherical or slightly flattened; sections ten to twelve, with very thin partitions; flesh orange in color, melting, free from rag, very juicy; juice-sacs slender, spindle-shaped, and of medium size, acidity and sweetness well blended, flavor spicy, rich, vinous and very characteristic; seeds, about twenty, small to medium in size, with green cotyledons; season January to April. There is every indication that this





TEMPLE ORANGES

fruit is a hybrid between a sweet Orange and some variety of the Mandarin Group. Its exact parentage and origin, however, are unknown at this time. The known history of the variety goes back only to the tree from which propagation was started, and nothing beyond that is known.

More and more, satisfactory financial returns from the production of citrus fruits is dependent upon the growing of strictly high-grade fruit. A survey of citrus returns over a long term of years shows that in any given year, whether the total production is heavy or light, fine appearing good quality fruit of the best varieties brings correspondingly high prices as compared with mediocre or poor quality fruit of inferior sorts. From every standpoint the Temple

Orange is a distinctly fancy fruit. With its beautiful appearance and fine quality it will, when the markets become acquainted with it, be in great demand. Temples are marketed during the latter part of the Tangerine season, and later. It greatly extends the season of Oranges of the Kid Glove Group. It can be sold as an Orange of this type for which there is a heavy demand and for which excellent prices are always obtained. Its place in the market comes in between Dancy and King.

We believe that a planting of Temple is a splendid investment and will net the grower great profit. It is a wonderful Orange of superior and outstanding merit and in time will probably become the most famous Orange in the citrus industry.

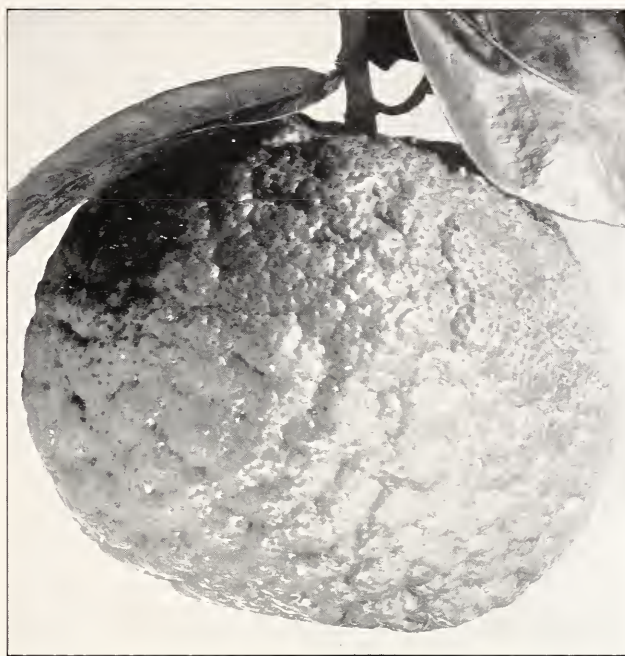


## King Orange

THE King Orange is the latest-maturing of the Mandarin (sometimes called the Kid Glove) Group. It is ready for marketing in March and April. The fruit is of large size, flattened, deep orange in color, roughened and pitted on the surface, with a rather thick rind. The flesh is deep orange in color, quality excellent, with a sprightly, agreeable flavor in which sweet and subacid are well blended. The tree is an upright grower, with very dark green, shiny foliage. It is a very prolific sort and this, together with its late-ripening season and high quality of fruit, have combined to make it a very profitable variety. It always commands a high price in the markets. In any mixed orchard it is well worth planting, and it has a place in every home grove. This side of citrus fruit culture is very often lost sight of. Our whole attention is so often given solely to our commercial work that we lose sight of fruits to be grown for home use, and which add so much to the comfort and joy of living.

## Owari Satsuma Orange

WHEN the propagation of Satsuma was undertaken by the Glen Saint Mary Nurseries (trees were first for sale in 1888), but one single introduction was made. The propagating material of this strain came from Major O. P. Rooks, Fruitland Park, Fla. To this single introduction, all our subsequent propagations trace back. Orchards planted with Glen Saint Mary trees throughout the Gulf Coast country became noted for the fine, large, uniform, early-maturing crops of fruit they produced. An investigation made by Dr. Tanaka and



KING ORANGE

Mr. Scott has shown that our trees in orchard and nursery consist of a pure strain—Owari Satsuma. This is the variety most commonly grown in Japan, where it has practically supplanted other strains. Through all these years—past thirty-eight to be exact—this is the variety we have furnished our customers. This is so as the direct result of our policy of line propagation, beginning with a definite specimen of known worth. The fruits of Owari Satsuma are large, flattened, depressed at both stem and blossom end, deep orange in color, with thin smooth rind, which may be stripped from the pulp with the fingers without breaking the sections into which the fruit is divided and nearly or quite seedless. Trees of this strain are thornless, prolific, vigorous, rather upright growers. For years we have marketed our crop during October and early November, though sometimes we have shipped in September. Owari Satsuma is an extremely hardy tree, having gone through 15° Fahr. without injury, and its natural hardiness is increased by budding on *Citrus trifoliata* stock. This is the only stock adapted to it—the only one on which we grow it. Young trees are heavy bearers, and under proper conditions an orchard of this variety brings early returns on the investment. It is adapted to west Florida, southern Georgia, Alabama, Mississippi, Louisiana, and the Gulf Coast country of Texas. In these sections Owari Satsuma is a high-class, profitable orchard fruit.



FERTILIZING BEARING GROVE





## Duncan Grapefruit

ABOUT a hundred years ago, a Spanish nobleman, Don Phillippi, settled near Green Springs, in what is now Pinellas County. There he planted Grapefruit seeds and grew a citrus grove. This is the oldest Grapefruit planting of which we have a record, and doubtless many of the old seedling plantings throughout Florida owe their existence to this Spaniard's enterprise. One of his trees, still living, produced fine fruit, and seeds of it were supplied to his neighbors. Duncan is a seedling of this original tree and was first brought to notice by Mr. A. L. Duncan, of Dunedin, Fla.

We consider Duncan the finest early and midseason Grapefruit grown. During all the years we have been in the citrus business (and during this time we have grown, observed, and tested a host of varieties), we have never found a Grapefruit which is quite the equal of Duncan in

all-round desirability. It has everything a Grapefruit should have, and its size is exactly what the markets want and pay best prices for—54's to 70's. In shape it is round, slightly oblate, and packs well. Color is a clear light yellow, with oil-cells showing through the smooth skin. The juice content is particularly heavy and possesses the true sweet-bitter-acid Grapefruit flavor. The season of this fine Grapefruit is an extended one. It is ripe enough in color and quality to ship in early December and it can be held on the trees without deterioration until late in April. We have been propagating Duncan for more than thirty years.

Through all the cold periods which we have experienced during this time, both in northern and southern Florida, we have observed that Duncan invariably has suffered less than any other variety. It is unquestionably the hardiest of all the Grapefruits.





## Marsh Seedless Grapefruit

THE Grapefruit industry of today is a growth of not more than forty years. The increase in cultivation, production, and use of Grapefruit is without a parallel in American horticulture. Extensive advertising in various ways, resulting in wide distribution, has been a large factor in popularizing this comparatively new and very wholesome fruit. Its healthful and medicinal qualities are daily becoming better known. It should also be remembered that, tree for tree, a Grapefruit planting will produce twice the number of boxes of fruit that an Orange tree will at practically the same cost of production. For example, under the same conditions, assuming that a six-year-old Orange tree will produce two to three boxes, a Grapefruit tree of the same age will yield four to six boxes. Considering the very limited area where real Grapefruit can be successfully grown, the outlook is very satisfactory.

Marsh Seedless originated at Lakeland, Fla., and was first brought to notice and grown by Mr. C. M. Marsh, about 1895. This is the only variety of Grapefruit that is practically seedless, there being frequently none and seldom more than three or four seeds to each fruit. Its marketing season begins in January, and, because it is so nearly seedless, the fruit can be held on the trees later than all other varieties except McCarty. The fruit is very handsome in appearance, with smooth yellow skin and flesh of fine quality, making it a great favorite in the markets, and always commanding good prices. It sells, not simply as Grapefruit, but under its own name. Like all other varieties of Grapefruit which we recommend for commercial planting, Marsh Seedless fruits run in the sizes most desired by the fruit trade. In every well-balanced planting, Marsh Seedless should be given a liberal place.





## McCarty Grapefruit

MANY years ago the McCarty Grapefruit, an Indian River variety, named for the late Mr. C. T. McCarty, attracted our attention. After keeping it under observation for several years, we decided to propagate it. It possesses in a marked degree the distinctive habit of producing its fruits singly instead of in bunches or clusters. This feature, coupled with its late ripening period and its very high quality, has so impressed us that we have come to regard McCarty as one of the finest Grapefruits grown in Florida today. Because it does not grow in clusters, the fruit is very uniform in size and shape and very free from those blemishes caused by clustering, such as extensive scale injury and misshapen fruits. We believe this variety is not surpassed by any other as a regular, uniform bearer. The fruit is of the best market size, light waxy yellow in color, with skin of beautiful texture and is

distinctly a fancy fruit. It has a perfect Grapefruit flavor and the flesh is melting, free from fiber and rag when properly grown.

In many instances where Grapefruit is held on the trees after maturity, in order to ship to a later or better market, the fruit has a tendency to swell or grow into larger and less profitable market sizes. McCarty does not do this but remains at its normal size. With other varieties there is also a tendency toward heavy dropping and consequent loss of fruit after growth starts in spring. McCarty hangs firmly with practically no dropping, because primarily it is an extremely late-maturing Grapefruit and really not ripe until April. We have repeatedly tested its late-keeping qualities and know that it will remain on the tree in good condition as late as July. It is a fine standard variety and the one to plant for a very late Grapefruit.



## Triumph Grapefruit

THERE is always a demand for an early Grapefruit, particularly for home use or for local market. Those varieties which ripen in midseason or later do not develop sufficient juice early in the season to make them satisfactory at that time. The Triumph Grapefruit fills the place of an early fruit better than any other variety with which we are acquainted. It is in good eating condition in November and has a season of about eight weeks depending upon the stock on which it is propagated and the citrus section where grown. It is a very prolific sort and the fruit, though smaller in size than our other varieties, runs very uniform. The size of the fruits may be materially increased by judicious thinning late in June. It is heavy, juicy, well-flavored, and smooth-skinned. It is sweeter than Grapefruit ordinarily is and in quality it is fine. The tree is quite an upright grower, with characteristic appearance and foliage. It is more susceptible to cold than other varieties and its location should be carefully selected.

## Foster. The Pink Grapefruit

THIS variety of Grapefruit originated a number of years ago, as a bud sport on a tree of Walter's Grapefruit, near Bradentown, Fla., and was introduced by Mr. E. N. Reasoner, of Oneco, Fla. It is an excellent Grape-



TRIUMPH GRAPEFRUIT

fruit in every way, but the outstanding feature is the color of the flesh which is purplish pink. When the fruit is fully mature, this color shows through the rind in places. The unique coloring of the flesh makes this a most attractive and unusual fruit for table or salads. It is an early to midseason fruit.

## The Tahiti Lime

OF all the acid fruits which may be grown in Florida, the Tahiti Lime is one of the most satisfactory for home use as well as for commercial planting. It is not quite so hardy as the lemon and its culture should be confined to localities where there is little or no danger of injury from cold. It grows as a dense-foliaged, round-topped tree, 12 to 15 feet in height. It is a very vigorous grower and remarkably free from insect and fungous pests.

The fruit of Tahiti is of the finest quality for making ade. It is best suited for use when full size but while the skin is still green. In size and shape it resembles a small lemon, but it is a much smoother and nicer fruit. It is seedless, has a splendid lime flavor, and is so much superior to other varieties of Limes that it is the only one we now propagate. Our experience has shown that the Tahiti Lime is a complete success on Rough Lemon stock. On this stock it makes a splendid growth and very prolific. Matured fruit, partly grown fruit, and blossoms are found on the trees at nearly all seasons of the year, but the heaviest bearing season is in the summer when the fruit is in greatest demand.

There is no purpose for which lemons or smaller Limes may be used to which Tahiti is not equally adapted. The variety should be given a place in every home orchard in southern Florida.



TAHITI LIME



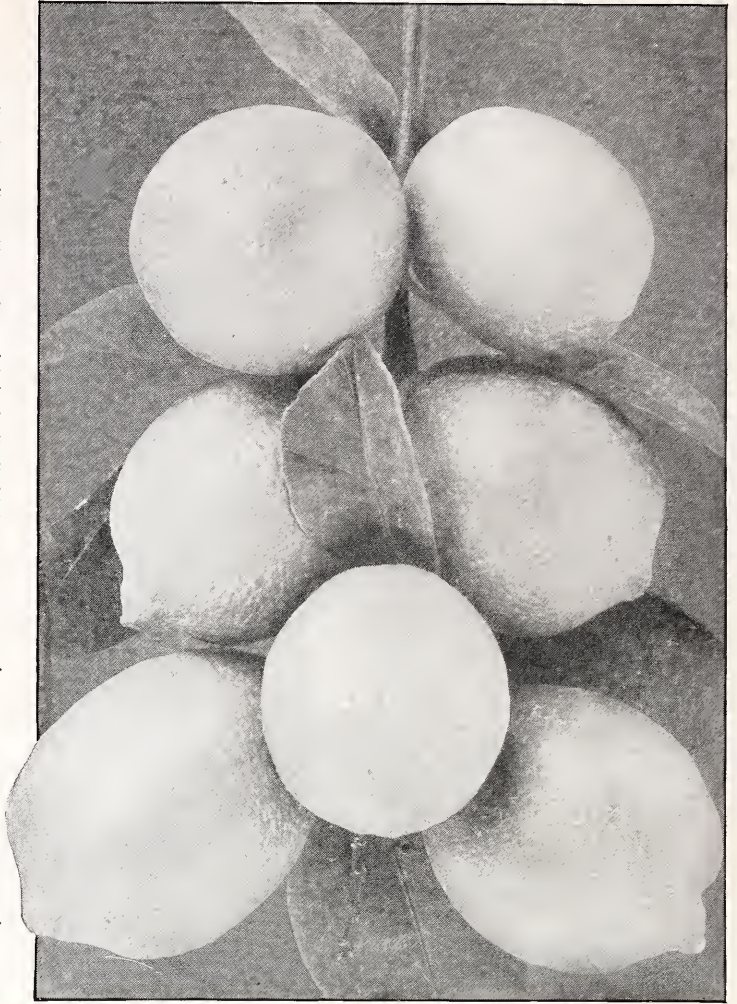
## Lemons

WHILE not so hardy as the orange and pomelo, yet Lemons can be grown over a wide range of territory. Even in north Florida we have often been able to produce more fruit than we could use. Certainly no collection of citrus fruits for home use in the citrus belt is complete without a few Lemons, and in sections most immune from cold this fruit may be grown in quantity.

A number of years ago, before the newer sections of Florida were opened up, Lemons were raised in considerable quantities. A number of causes contributed to the reduction of the plantings, until at this time Lemons are grown in small numbers only. It is now quite certain that a return to the planting of this citrus fruit will make a profitable investment under proper conditions. The growing of Lemons for use in this state alone is an industry worthy of consideration.

**PONDEROSA.** An exceptionally large Lemon, fruits weighing from  $1\frac{1}{2}$  to  $2\frac{1}{2}$  pounds. This fruit, while a great novelty, has at the same time a well-defined usefulness. The juice from one of them will make a large pitcher of lemonade. It can also be used in all the culinary ways in which ordinary Lemons are used. It makes a very fine, thrifty, ornamental tree and bears heavy crops when quite young. Two or three trees should be included in every home orchard planting.

**VILLA FRANCA.** In our test orchards we have grown and fruited for years all the important commercial varieties of Lemons. As a result of these tests we are convinced that Villa Franca is the Lemon for Florida. It has taken first rank in many competitive exhibits, and is the variety to plant for either local use or for market. The fruit is juicy, strongly acid, and of fine quality, almost or quite seedless. The tree is quite free from thorns, a fine grower, and produces regularly fine crops of good fruit. A few trees to provide fruit for home use or for local market are a valuable addition to a citrus planting.



VILLA FRANCA LEMONS



WELL-CARED-FOR YOUNG GROVE



## Kumquats

THE KUMQUAT is the smallest of the citrus fruits in general cultivation in this country. Usually the plants are called bushes, for they do not make trees. The plant grows to a height of 10 to 12 feet, with a spread of branches about equal to its height. The bright, dark green leaves and deep golden yellow fruits make a very pleasing combination of color. The flowers are small, sweet-scented, and appear in June on the shoots produced earlier in the same season. The fruit ripens during the fall and winter, beginning with the month of November. As an ornamental alone, it is not surpassed by any other evergreen shrub with which we are acquainted.

In point of hardiness, the Kumquat ranks with the Satsuma Orange. It will withstand temperatures of 15 degrees Fahr. and even lower.

We are the largest growers and shippers of this fruit in the country, having marketed from four to six hundred bushels of fruit annually for several years past. The crop has netted from \$2.50 to \$3.25 per bushel, sometimes selling as high as \$6 to \$10 per bushel. We have found it a profitable fruit to grow, as the trees yield well and can be planted close together. When gathering the crop we always cut the fruit from the trees with twigs and leaves attached, and pack a goodly proportion of leaves with the fruit. They are packed in quart baskets and shipped in strawberry crates. The fruit always sells better with foliage attached. This is an advantage, as the leaves help to fill up the baskets, and make a larger bulk than if the fruit alone were packed. The fruit is largely used for table decorations, and is in largest demand for Thanksgiving and Christmas holiday trade. Very appetizing jelly and marmalade may be made from the fruit, and it can also be crystallized. For commercial planting, or for use as an ornamental for home use only, Kumquats are well worth planting.

### PRICES ON KUMQUATS

| On Citrus trifoliata and Rough Lemon Stocks.     | Each   | Per 10 | 100     |
|--|--------|--------|---------|
| 1-year buds, about 1 to 2 feet, stocky . . . . . | \$1 00 | \$9 00 | \$75 00 |
| 2-year buds, about 2 to 3 feet, stocky . . . . . | 1 25   | 11 50  | 100 00  |



NAGAMI KUMQUATS

**MARUMI.** Fruit round, about one inch in diameter; bright golden yellow. Rind sweet, with pleasant flavor; pulp and juice sprightly; very fine. Tree forms a well-rounded, symmetrical head.

**NEIWA.** Fruit round, slightly larger than Marumi; pulp sweet when fully ripe. Of recent introduction and very desirable. Best of all Kumquats to eat out of hand.

**NAGAMI.** Fruit oblong, about 1½ to 2 inches long and 1 inch in diameter; fruit golden yellow; rind sweet; pulp and juice sprightly, of fine flavor. Tree forms a nice head, more open than Marumi.



### New and Uncommon Varieties

We also have for garden planting a limited number of odd varieties, such as Eustis Limequat, Calamondin, Mandarin Orange and Thornton Tangelo.



## The Citrus Industry of Florida

THE Sour Orange, *Citrus aurantium*, was the first Orange to reach Europe, and for many, many years was the only one grown there. The old trees in the Alcazar at Seville, Spain, described by M. Navagero in 1523, and undoubtedly planted long before that time, are Sour Oranges. The Alcazar dates from 1181, but it is very probable that they were planted subsequent to that date. Some of these trees are still in flourishing condition and are among the oldest in Europe.

When citrus fruits were first brought to Florida, or by whom, is not known. Perhaps some day the facts concerning their introduction may be found in old Spanish literature and brought to light. The Spaniards ruled Florida from 1513 to 1831, except for the years 1763 to 1783, when the English were in control. During the Spanish occupancy, and undoubtedly at a very early date, citrus fruits were brought to Florida, and there appears to be but little question that the Sour Orange was the first introduced. Later the Sweet Orange, *Citrus sinensis*, and the Rough Lemon, *Citrus limonia*, were also established by them in the New World.

After the Sour Orange had been long enough on Florida soil to become established and bear fruit in the settlements, it was scattered over the state by both Spaniards and Indians. Probably the fruit was carried by them on their travels and excursions, and, when eaten, the seeds were thrown aside. They

sprouted and grew where they fell, and groves of wild Sour Orange trees were established on the banks of lakes and rivers, particularly in Marion, Lake, Orange, and Volusia counties. These wild groves furnished stocks for early plantings of Sweet Oranges, and there are in Marion County today bearing Sweet Orange trees growing on the original Sour Orange stocks. Wild Sweet Orange trees, too, were found by early settlers, but they were relatively very scarce. From these crude beginnings the citrus industry of Florida started.

The Grapefruit is a later addition to our commercial citrus fruits. Shaddock, an English sea-captain, so the story goes, brought seeds of what is now known as the "Shaddock" to the Barbados Islands, and from there, at a later date, it was disseminated throughout the West Indies. In Jamaica, a fruit was found, probably a descendant of Shaddock's introduction, which the inhabitants called "Grapefruit," and the "Smaller Shaddock." In early writings describing this fruit the name "Grapefruit" is first used. From the West Indies it found its way into Florida. It was grown, a few trees here and there, for many years, but it was not until about 1880 to 1885 that any notice was taken of it as a commercial fruit. Its development as a market fruit of first importance has come about since that time, and all the varieties grown in Florida today are chance seedlings.



250 ACRES OF GROVE AND NURSERY FROM THE AIR



The raising of citrus fruits has rapidly passed from a pastime to an industry which stands at the head of all industries in Florida. We have not been able to find any statistics prior to 1886, in which year 1,260,000 boxes were produced in Florida. The crop continued to grow until the Florida product increased to 20,399,614 boxes for the season 1923-24. The cash value of the 1924-25 crop was \$50,676,192, which is ten times the cost of Florida when the United States purchased it from Spain. For the past sixteen years the total value of Florida's citrus crop was \$431,500,000.

There are approximately 166,000 bearing acres in Florida. The non-bearing acreage is estimated at 80,000 acres, consisting of trees four years old and younger. According to estimates submitted by well-posted authorities, over 16,000 acres of old bearing groves were cut up into subdivisions, golf-links, and town-sites during the past two years. The present total of 246,000 acres of grove property in Florida is actually 7,500 acres less than the total reported by the State Plant Board on December 31, 1923. This reduction of 7,500 acres included the new plantings reported during the two-year period. A conservative estimate of the value of these groves, when they all come into full bearing, should be no less than \$1,000 per acre, which would equal a total valuation of \$246,000,000 in grove property in the state of Florida. It is estimated that there are about 250 packing-houses in this state, representing an investment of more than \$7,000,000. In the beginning the markets for Florida citrus fruits lay only in a few large cities along the Atlantic Coast. Today the Florida crop is distributed over 45 different states, many provinces of the Dominion of Canada, as well as in some of the European countries. We

have at every hand, during each season, ample evidence of the success of the continual effort to popularize Florida Oranges and Grapefruit through advertising by the Florida Citrus Exchange and various other National marketing agencies.

The citrus industry in the United States has paid greater returns than any other agricultural or horticultural pursuit. It will continue to lead in horticultural profits until Oranges and Grapefruit in their present-day perfection are replaced by similar fruits having greater food and health-giving qualities, which is a very remote possibility. Citrus fruit-growing offers the cleanest, most satisfactory, interesting, and profitable occupation in the field of horticulture. There is no other farming endeavor that returns the same steady and increasing profits. One need only to compare all crop returns over a period of years with that of citrus fruits to realize the real opportunity offered in citrus fruit-growing. Never in the history of the industry has the outlook been more favorable than it is at the present time. More and more as the older plantings of citrus are eliminated by urban development and other causes, it will be necessary for new plantings to be made in order for production to keep pace with the ever-growing demand. These conditions warrant a steady and normal amount of new acreage to bring this about. Experiments are not necessary, and it only remains for the beginner in this field of horticulture to follow the experience we have gained as an organization, which experience we are always glad to pass along to our customers. The planter of today who will plant only standard varieties of proven merit, high-grade quality trees, Glen-Saint-Mary-grown, can look for success and profit with every assurance.

## Planting Information

### Preparing the Land

Before planting, the land should be thoroughly cleared of all the native growth. After clearing, the land should be plowed moderately deep, harrowed, leveled, and the soil put in as good condition as possible. It is advisable to fence the land as a protection from live-stock. It is an excellent plan

to sow a cover-crop on new land the summer before the trees are planted. The cover-crop shades the bare land from the sun and when turned under in the fall it adds humus and greatly improves the condition of the soil. When the ground is already in good condition, however, the trees may be planted at once and cover-crop sown later between the tree rows.



THRIFTY GLEN-GROWN GROVE



## The Planting Season

In Florida, planting is usually done either in the winter, from December 15 to March 15, or in the summer after the rainy season starts. The winter is preferred as at that season the ground is cool and moist and the trees become well established before the spring drought begins. We are in position to offer our customers expert assistance in the planting and care of young trees, and in many cases we actually arrange all details of the planting work where the grower is inexperienced and prefers to have us plan the work.

## Planting Plan and Distance

Groves are usually laid out in square or oblong rectangles, with the tree-rows intersecting each other at right angles. A common distance for setting Orange and Grapefruit trees in Florida is 25 by 25 feet. Another popular plan is to space the trees 15 by 30 feet. This plan provides sufficient space for cultivation and harvesting along the wide rows and makes possible a much larger production per acre. We recommend this style of planting on high-priced land, as 30 additional trees can be used per acre over the 25 by 25-foot arrangement. Tangerines are generally planted at the same distance as Oranges. Grapefruit trees often have a greater spread than Oranges and it is usually desirable to space them at a greater distance. Satsuma Oranges are frequently set 20 by 20 feet, or closer; Lemons 20 by 25 feet; Limes 15 by 20 feet; and Kumquats 10 by 15 feet. Some growers have planted their trees close together (15 by 30 ft. or 15 by 25 ft.) with the intention of removing every alternate tree in the 15-foot space when the trees begin to crowd. It has been calculated that the trees that would have to be removed after they have borne crops for five to eight years will, during their life of usefulness, more than pay the entire cost of producing the grove, exclusive of the cost of the land. The trees so removed can be successfully transplanted to new locations and they are therefore not considered a loss when removed from their first location.

Wherever more than one variety of citrus is planted, each sort should be in a block by itself. It is much easier to harvest and handle the crop effectively when the trees are set in this way. After the ground has been prepared, a stake should be set where each tree is to be planted. The tree-rows should be laid out with great care in order to have them exactly straight. Even an inexperienced grower will find little difficulty in staking his land.

## Selection of Root-Stock

In selecting trees for your particular land, the first important question that arises is that of root-stock. You should select that root-stock which is best suited to your particular soil conditions.

## Sour Orange

If your land is of better than average fertility and capable of retaining sufficient moisture during periods of extreme drought, or if your soil is of the flat woods, muck, or the high hammock type, you can plant successfully the Sour Orange root. No root-stock is better adapted for the production of healthy, vigorous trees and fine-quality fruit. It is healthy, free from disease, and hardy. Besides its ability to assimilate from the soil an abundance of nutriment for the production of quality fruit, this root-stock functions so as to make possible the late marketing of fully matured crops, and for the production of late-keeping fruit it is unsurpassed. It has proven by far the best for the Lower Rio Grande Valley of Texas.

## Rough Lemon

This is the fastest growing of all stocks and induces a vigorous growth of top. On account of its wide-spreading root system and foraging habits, it is the best stock for light, sandy soils. Trees worked with it do well on soils so lacking in fertility that other stocks would be complete failures. On account of their rapid growth, trees with Rough Lemon root are more tender as compared with other stocks



OVER HALF A MILLION



and should be planted where there is little danger from cold. As a rule, light, sandy soils, such as are found on the lower East Coast of Florida and in the high rolling regions of Polk, Orange, and Lake counties, are quite safe from frosts. Rough Lemon root is best adapted to high, dry, or sandy soils or on any of the citrus soils lacking in moisture and fertility.

### Citrus trifoliata

This is the hardiest species of Citrus known in this country. For the Satsuma Orange, it is the only stock to use, because of its influence on the quality of the fruit and the fruitfulness and hardiness of the tree. It is adapted to planting on alluvial lands, clay lands, soils underlaid with clay, and those which naturally contain plenty of moisture or to which water can be applied by irrigation.

### Setting the Trees

It is best to plant the trees as soon as possible after they are received from the nursery. If planting must be delayed, the trees should be removed from the box or bales in which they are shipped and heeled in to prevent the roots from drying out. The roots should never be permitted to become dry, even for a short time. When they are taken to the field for planting they should be kept covered with wet packing or carried in a barrel half filled with water. The holes dug for the trees should be of ample size to receive the roots without crowding and should be dug at planting-time, as otherwise the soil will dry out too much. Just before they are planted all bruised or broken roots should be trimmed from the trees with a sharp knife. The trees should be set at the same level or an inch or so higher than they stood in the nursery. If set deeper, the topmost feeder roots are smothered and the tree fails to make proper growth. The roots should be evenly spread out and surface soil packed among them until they are well covered. Not more than 1 or 1½ inches of soil need be placed over the topmost roots. It is very essential that the soil be well firmed and packed so that it is

in close contact with the roots. While some growers mix about a half pound of good commercial fertilizer with the soil used for filling tree-holes, we recommend that fertilizer be placed around the tree a week or ten days after the tree has been set. However, in marl soils, manure well worked into the tree-mounds before planting has proven decidedly beneficial. After the hole is filled with well packed soil, a shallow basin should be made around the tree and five or ten gallons of water applied. To prevent evaporation of moisture, this basin should then be covered with a mulch of dry soil. When there is danger of frost, the basin should be omitted and the trees mounded or banked with soil so that the lower portion of the tree, up to a point well above where it was budded on the stock, is protected from the cold. Dry, clean soil, free from waste or litter, should be used, as trash or decayed matter frequently attracts wood-lice. As soon as the danger from cold is over, the mounds should be removed, as soil left mounded about the trunk in warm weather may favor bark diseases or cause the bark to become heated. The trees should be watered from time to time, whenever their appearance indicates the need. In the absence of sufficient rain or during a protracted dry spell it is well to water the young trees every ten days. By examining the top-soil around the trees it may be determined whether or not the moisture-level has receded sufficiently to make watering necessary. Except during the rainy season, the ground in the tree-rows should be cultivated so that a dust-mulch is formed and evaporation checked as much as possible.

In shipping trees from our nursery, we cut back the tops to a point which by experience we have found will give the best results in the grove. Tops must be cut back to make up for the pruning which the roots receive at transplanting. The balance between the root system and the top must always be maintained. Trees that are headed at planting-time will need very little pruning for the first two or three years. After the grove is planted, it is an excellent plan to make an accurate diagram showing the location of each tree and variety.



BUDDED TREES



### Number of Trees to the Acre

| Distance apart<br>feet | No. trees | Distance apart<br>feet | No. trees | Distance apart<br>feet | No. trees |
|------------------------|-----------|------------------------|-----------|------------------------|-----------|
| 10 x 10.....           | 435       | 15 x 30.....           | 96        | 20 x 20.....           | 108       |
| 11 x 11.....           | 360       | 16 x 16.....           | 170       | 20 x 30.....           | 72        |
| 12 x 12.....           | 302       | 17 x 17.....           | 150       | 25 x 25.....           | 69        |
| 13 x 13.....           | 257       | 18 x 18.....           | 134       | 25 x 30.....           | 58        |
| 14 x 14.....           | 222       | 19 x 19.....           | 120       | 30 x 30.....           | 48        |
| 15 x 15.....           | 193       |                        |           |                        |           |

### Cultivation

The most widely used method of cultivation in Florida is that of combining clean culture in the dry season with cover cropping during the summer rainy season. In the spring the harrowing or discing is done at intervals of ten days or two weeks throughout the dry season, and it is only necessary to stir the upper 2 to 3 inches of the soil to get an effective dust-mulch. Deeper tillage may injure the feeding-roots of the trees. When the summer rainy season begins, cultivation is discontinued and the cover-crop sown or a volunteer crop of weeds and native grasses allowed to spring up. In October or November the cover crop is plowed or disced under to add humus to the soil. Velvet beans, beggarweed, cowpeas, and erotolaria are now used extensively for cover-crops in Florida. All of these are leguminous crops and in addition to adding humus they also add considerable nitrogen to the soil.

### Fertilizers

Most of the soils of the Gulf States require addition of fertilizer for the production of the most profitable fruit crops and to obtain satisfactory growth in young trees. The kind, quantity, and frequency of application of such fertilizer varies so greatly in each grove that we recommend to the grower that he secure the advice of a reputable fertilizer company on this question or consult us

about his particular location and requirements. The newcomers in a citrus section should consult growers of experience in their locality and be guided to some extent by their advice in fertilizing their groves. In Florida, the usual practice is to fertilize young trees three times annually. The first application is made in the spring at the time the first flush of growth starts; this is generally in late February or early March. The second application is usually made in June, and the last, early in September. The total fertilizer used on trees the first year they are set is from one to two pounds. This is increased about a pound a year until the trees are five or six years old and begin to bear commercial crops of fruit. The fertilizer is spread evenly over the ground in a circle around young trees and then worked into the soil. It should be distributed well out over the ground shaded by the branches so that the entire widespreading root system may be reached. Care must be taken to see that the fertilizer is kept at least 8 inches away from the trunks as it is sometimes injurious to the crown-roots.

### Profits

The profits in citrus-growing vary even more than the cost. The returns from some of the best groves are very high indeed, while, on the other hand, the poorly located or improperly cared-for groves are sometimes maintained with very little profit. The increasing utilization of off-grade fruit through the newly developed canning process for Grapefruit, the bottling of citrus fruit juices, and the preparation of candied fruits, will, in a large measure, absorb the lower grades of fruit, thus increasing the demand for the well-grown attractive product. The development of new markets through better distribution, and the stimulation of consumption through advertising, are factors of importance in maintaining a healthy balanced production and consumption.



BUDDED TREES ON ROUGH LEMON STOCK



## WINTER HAVEN, FLORIDA

Date \_\_\_\_\_ 192\_\_

*Gentlemen: For the account of the undersigned, please enter order for the Citrus Fruit Trees listed below:*

Find enclosed \_\_\_\_\_ Ship by \_\_\_\_\_

Write here "Freight," "Express," or "Use your discretion"

Date shipment is to be made \_\_\_\_\_

Post Office Address: Name

Street or Box No. \_\_\_\_\_

Place \_\_\_\_\_ State \_\_\_\_\_

**Shipping Address:** *Name* \_\_\_\_\_

Place \_\_\_\_\_ State \_\_\_\_\_

NOTE: Under the heading "Stock," write R. L. for Rough Lemon, S. O. for Sour Orange, or U. Y. D. for Use your discretion.

| QUANTITY | VARIETY      |   |              | SIZE  | STOCK | PRICE |       |
|----------|--------------|---|--------------|-------|-------|-------|-------|
|          |              |   |              |       |       | Each  | Total |
|          | ORANGES      | Hamlin  |              |       |       |       |       |
|          |              | Parson Brown  |              |       |       |       |       |
|          |              | Pineapple   |              |       |       |       |       |
|          |              | Valencia Late   |              |       |       |       |       |
|          |              | Lue Gim Gong  |              |       |       |       |       |
|          |              | Tangerine (Dancy)   |              |       |       |       |       |
|          |              | Temple { Temple agreement on reverse<br>side must be signed |              |       |       |       |       |
|          |              | King  |              |       |       |       |       |
|          |              | Satsuma   |              |       |       |       |       |
|          | GRAPEFRUIT   | Duncan  |              |       |       |       |       |
|          |              | Marsh Seedless  |              |       |       |       |       |
|          |              | McCarty   |              |       |       |       |       |
|          |              | Triumph   |              |       |       |       |       |
|          |              | Foster  |              |       |       |       |       |
|          | LEMONS       | Ponderosa   | Villa Franca |       |       |       |       |
|          | LIMES        | Tahiti  |              |       |       |       |       |
|          | KUMQUATS     | Marumi  | Nagami       | Meiwa |       |       |       |
|          |              |   |              |       |       |       |       |
|          |              |   |              |       |       |       |       |
|          |              |   |              |       |       |       |       |
|          | <i>Total</i> |   |              |       |       |       |       |

NOTICE: If you wish us to substitute in case varieties are exhausted, write here the word "Yes"\_\_\_\_\_.

Signature of customer \_\_\_\_\_



# Temple Agreement for Temple Orange Trees

# GLEN SAINT MARY NURSERIES CO.

## WINTER HAVEN, FLORIDA

Date\_\_\_\_\_192\_\_\_\_\_

*Gentlemen:* To protect myself and other purchasers of Temple Orange Trees against the competition of inferior fruit sold under the same name, and to protect you in the right to exclusively propagate and distribute this Orange, and in consideration of the fact that you are to supply me the trees ordered at the special price \$\_\_\_\_\_ each, I agree not to sell or to give away, or to permit to be taken any scions, buds, or cuttings from these trees, or from their progeny, for a period of twenty-five years.

I further agree not to sell or give any of these trees away, and in case of disposition of the property on which trees are planted, I obligate myself to secure a like agreement from the purchaser and to place said agreement in your possession.

This agreement covers any Temple Orange Trees that I now own or may hereafter acquire.

Signed \_\_\_\_\_

### EXPLANATION OF THE PROTECTION AGREEMENT PRINTED ABOVE

You will note in the order blank herewith a clause binding you not to dispose of any budwood of the trees of the Temple Orange or of the trees themselves.

This agreement is both for your protection and for ours. We regard it of just as much importance, if not more, from your standpoint as from ours and believe you will agree with us.

If the propagation and distribution of trees of this new Orange are not confined to a single dependable and responsible channel, all sorts and kinds of strains of Temple Oranges will be offered within a few seasons.

The fruit of some of these strains, if indeed not that of all of them, except the original from our nurseries, will be inferior, and when this poorer stuff is marketed under the Temple name it will have a tendency to lower the prices offered for true Temple Oranges.

By the restrictions we are placing on the sale of Temple budwood and trees, we are endeavoring to, just as far as possible, protect our customers against this condition. You know that the fruit of the true Parson Brown or Pineapple Orange, for instance, does not sell as well as it would if there were none of the false strains in the market.

This agreement providing against the sale of budwood also is for our protection against unfair competition. We have thoroughly tested out this fruit and are propagating trees under conditions which assure you that they are healthy, true to name, and first class in every way. It is but common fairness and simple justice that all selling rights in the Temple Orange should be our property.

Respectfully submitted,

**GLEN SAINT MARY NURSERIES CO.**

**THIS SPACE FOR CUSTOMER'S REMARKS OR INSTRUCTIONS**



## TERMS OF BUSINESS

**Location.** Citrus Nurseries and Office at Winter Haven, Polk County, Fla. Ornamental, General Nurseries, and Office at Glen Saint Mary, Baker County, Fla. Branch Offices at Tampa, Fla., Orlando, Fla., and Mercedes, Texas.

**Invitations to Visitors.** We take pleasure in showing our stock to persons wishing to purchase; if notified in time, we will meet visitors at the station on arrival.

**Terms.** Cash with order, if for immediate shipment. On orders booked in advance of shipping season, 25 per cent cash should accompany order, with balance payable when trees are shipped. We do not care to ship C. O. D.

**Transportation Charges.** Transportation charges are to be paid by the purchaser, and our responsibility ceases upon delivery to forwarding companies; claims for losses or damages must be made upon the latter. We will, however, institute a tracer for delayed shipments, if notified, and use every means at our command to secure prompt delivery, or recovery in case of damage or loss.

**Substitution.** It is our desire to furnish stock exactly as ordered. On orders for commercial planting, substitution of varieties will not be made without permission from customer. On small orders, items which we are unable to supply will be omitted unless we are instructed to substitute.

**Proper Labeling.** Everything is plainly marked with best quality of printed labels, attached with brass wire.

**Our Guarantee.** We guarantee all stock sent out to be well rooted, well grown, true to name, properly packed and shipped according to instructions.

**Liability.** While we exercise the greatest care to have trees true to label, and hold ourselves prepared, on proper proof, to replace any that may prove otherwise, we do not give a warranty, express or implied, and, in case of error on our part, it is mutually agreed between the purchaser and ourselves that we shall not at any time be held responsible for a greater amount than was paid for the trees.

**Claims.** Every precaution is used against errors, but if they occur, we will promptly rectify them if claim be made as soon as the error is discovered.

**Orders.** In writing orders, give post office address in full, including county and state; also point of destination, if different from post office. Name route by which to ship, if there is any preference, and state whether by freight or express.

### *A New Book*—"THE CULTURE OF CITRUS FRUITS"

A NEW book on citrus fruits by H. Harold Hume will be published January 1, 1926. This work will supplant "Citrus Fruits and Their Culture," by the same author, for many years the standard text on Citrus Fruits but now out of print. Because of the great advance in knowledge of citrus fruit culture and the many radical changes in methods, an entirely new book has become necessary.

"The Culture of Citrus Fruits" covers all phases of citrus fruit growing. It deals exhaustively with varieties, with propagation, nursery practice, planting, fertilizing and frost protection. It covers the details of orchard management, and harvesting and marketing the crop. Insects and diseases are described and methods of their control discussed. It is fully illustrated with plates and drawings.

"The Culture of Citrus Fruits" is complete, exact, and authoritative. It will be the standard reference and text book on the subject for many years. After January 1, we will have copies available for our customers. Order now.





# **Glen Saint Mary Nurseries Co.**

*FOUNDED 1882*

**Winter Haven, Florida**

**Largest Citrus Nurseries  
in the World**